

Work Order ID 56122

February 10, 2010 2:26:25 PM

Page 1

Item ID: D2580-1

Accept

Revision ID:

Item Name: 205 Skidtube bent detail

Setup Start

Stop

Start Date: 2/10/10 Start Qty: 2.00

Required Date: 2/12/10 Req'd Qty: 2.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00

HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

4/10/2123

101

QC3- Inspect Part Finish

0.00

QC

Memo

0.00

Quality Control

JP 10-2-24

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Date:

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Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00

Skidtubes

Memo

0.00

Skidtubes

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

A/R Sikaflex-291 batch: 4112429

Sikaflex expire date: 12/8/20

Start time: 9:20am bond for 12hrs

11/2/24

11/2/25

130

QC5- Inspect part completeness to step on W/O

0.00

QC

Memo

0.00

Quality Control

72

BE 10/03/01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 56122

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Page 3

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Reference:

Approvals: Process Plan: Date:

QC: Date:

Tooling: Date:

SPC (Y/N): Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140



Packaging

Packaging

Identify as per dwg & Stock Location

LG

0.00

Memo

0.00

150



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00



Cust Item ID:

Customer:



Setup Start



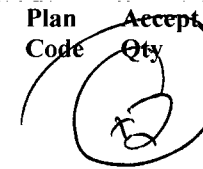
Stop



Run Start



Stop



BE 10/03/01

10/03/03

MF
10-3-1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

February 10, 2010 2:26:24 PM

Page 1

Work Order ID: 56122

Parent Item: D2580-1

Parent Item Name: 205 Skidtube bent detail

Comments: IPP B .01.11.08 Revised Step 9, 10, 12, and 13 SM

Start Date: 2/10/10

Required Date: 2/12/10

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190		Manufactured	No				Each	89.0000	2.0000			



Ext'n -1' Beam Tube 4"

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

LG 86

52319 86

Main Warehouse

ST 3

46468 3

D2596

Manufactured No

110 Each 3.0000 2.0000



Web, 205 Skidtube

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

LG 3

53263 1

54710 2

BS6 471

2 M 10/2/25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY SCALE NTS	
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07 06 28 *[Signature]*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

u/d
5/6/22

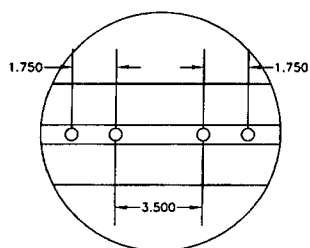
GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

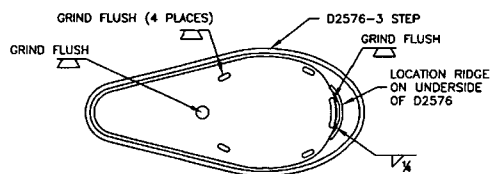
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DETAIL A
SCALE 5:24

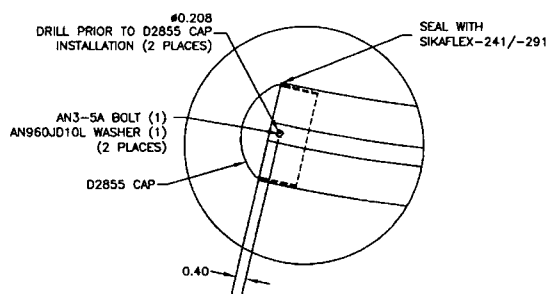


DETAIL B
SCALE 5:24

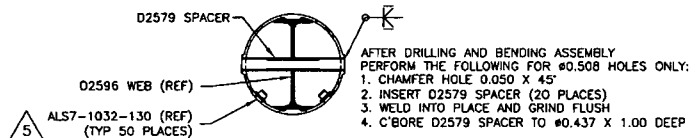


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07 Dec 88

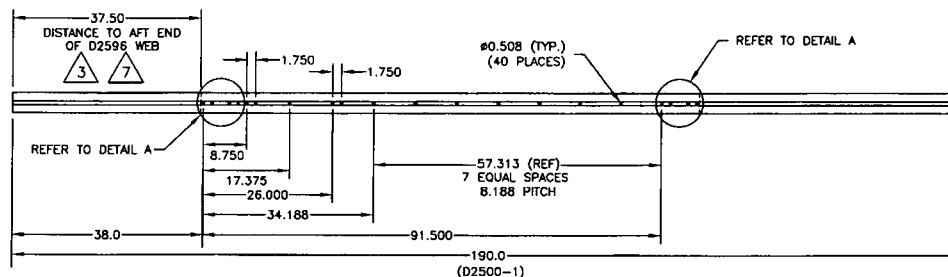
DETAIL C
SCALE 5:24



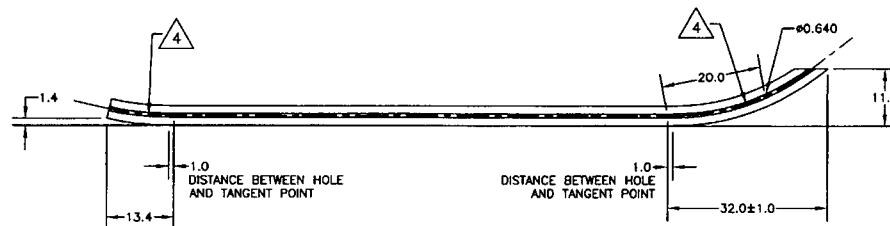
SECTION D-D
SCALE 5:24



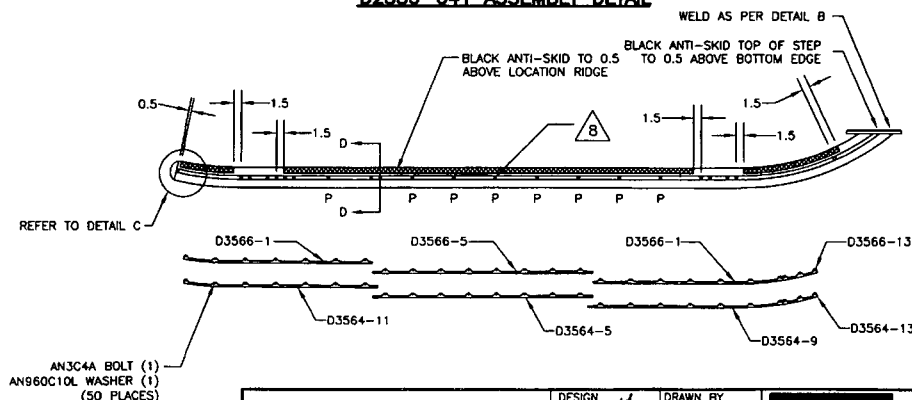
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



D2580-041 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

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DESIGN

DRAWN BY

CHECKED

APPROVED

DATE

07.02.27

DART DART AEROSPACE LTD.
HARRISBURY, ONTARIO, CANADA

DRAWING NO.

D2580

TITLE

205 SKIDTUBE ASSEMBLY

REV. D

SHEET 2 OF 3

SCALE

1:24

RELEASED
07 Dec 28

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the component with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576

Technical drawing of a circular component with the following specifications:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Points to two small circles on the left side of the component.
- #0.208**: Dimension for the diameter of the two small circles.
- AN3-5A BOLT (1)**: Points to a bolt on the right side of the component.
- AN960JD10L WASHER (1) (2 PLACES)**: Points to two washers on the right side of the component.
- D2855 CAP**: Points to the top surface of the component.
- SEAL WITH SIKAFLEX-241/-291**: Points to the outer edge of the component.
- SEE NOTE ii)**: Points to the right side of the component.
- 0.40**: Dimension for the radius of the component.

D2579 SPACER

D2596 WEB (REF)

AL57-1032-350 (REF)
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR #0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO #0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

37.50
DISTANCE TO AFT END
OF D2596 WEB

3
7

1.750 1.750

#0.508 (TYP.)
(40 PLACES)

REFER TO DETAIL E

REFER TO DETAIL A

8.750
17.375
26.000
34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0 91.500

190.0
(D2500-1)

Technical drawing of a propeller shaft with the following dimensions and callouts:

- Overall length: 51.340
- Distance from left end to first reference point: 5.985
- Distance between first and second reference points: 5.338 (REF)
- Distance from second reference point to third reference point: 3.630 (REF)
- Distance from third reference point to fourth reference point: 39.580
- Distance from fourth reference point to fifth reference point: 5.915
- Distance from fifth reference point to right end: 20.0
- Shaft diameter: $\phi 0.508$ (8 PLACES)
- Propeller diameter: $\phi 0.640$
- Callout 4: Points to the left end and the propeller.
- Callout 11: Points to the right end.
- Distance between hole and tangent point (left): 1.0
- Distance between hole and tangent point (right): 1.0
- Distance from left end to left hole: 13.4
- Distance from right hole to right end: 32.0 ± 1.0

[illegible]

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DATE 07.02.27

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DRAWING NO.	REV. D
D2580	SHEET 3 OF 3
TITLE	SCALE
205 SKIDTIRE ASSEMBLY	1:24